



Title V Operating Permit

Permit No: **TV-OP-027**

Date Issued: **July 21, 2000**

This certifies that:

Kalwall Flat Sheet Plant
40 River Road
Bow, NH 03304

has been granted a Title V Operating Permit for the following facility and location:

Kalwall Flat Sheet Plant
40 River Road
Bow, NH 03304
AFS Point Source Number 3301 300051

This Title V Operating Permit is hereby issued under the terms and conditions specified in the Title V Operating Permit Application filed with the New Hampshire Department of Environmental Services (DES) on **June 28, 1996** under the signature of the following responsible official certifying to the best of their knowledge that the statements and information therein are true, accurate and complete.

Responsible Official:

Richard Keller
President, Kalwall Corporation
(603) 627-3861

Technical Contact:

William Dannhauer
Facility Manager
(603) 224-6881

This Permit is issued by the New Hampshire Department of Environmental Services, Air Resources Division pursuant to its authority under New Hampshire RSA 125-C and in accordance with the provisions of Code of the Federal Regulations 40 Part 70.

This Title V Operating Permit shall **expire on July 31, 2005**.

SEE ATTACHED SHEETS FOR ADDITIONAL PERMIT CONDITIONS

For the New Hampshire Department of Environmental Services, Air Resource Division

Director, Air Resources Division

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Facility Specific Title V Operating Permit Conditions

I. Facility Description of Operations:

Kalwall Corporation (“Kalwall”) owns and operates a continuous lamination manufacturing process for making flat reinforced plastic (“fiberglass”) sheet or panels. It is a continuous process, but to a limited extent. It proceeds without interruption as long as raw materials are supplied to the feed end of the equipment. In practice, Kalwall “injects” resin supply to the applicator bath tank in 500 pound batches. Thus the process is intermittent at Kalwall’s facility.

Rolls of fiberglass roving are chopped and mechanically distributed on a carrier surface to produce a uniform mat. The mat is then fed into a resin applicator bath at a measured rate. Resin is gravity fed to the applicator bath from a mezzanine mixing tank area. In the resin applicator bath the fiberglass mat is impregnated with resin, followed by running through a squeeze roll to remove excess resin, further compact the resin into the fiber bundles or mat, and to control the sheet’s thickness. At this point a carrier film picks up the impregnated sheet and supports it from below. The production line continues with a second film applied from above to sandwich the resin-impregnated fiberglass between the two sheets.

The automated production line then passes through a heating zone of 190 to 250 degrees Fahrenheit. This step accelerates the chemical reaction, and cures or hardens the finished material. The resulting “fiberglass” sheet is flexible enough to be coiled in rolls. Kalwall’s practice, however, is to allow the sheet stock to cool and cure thoroughly before stripping away the carrier film. This practice reduces, if not eliminates, fugitive emission of residual monomer from incompletely-cured product.

Among the most common applications of the sheet product are construction panels, electrical insulating material and glazing panels. The sheets may be opaque or translucent, flat or corrugated, depending on customer specifications. Additional uses are as truck trailer paneling, refrigerator liners, sanitary paneling, solar collector covers, road signs, and other similar products.

II. Permitted Activities:

In accordance with all of the applicable requirements identified in this Permit, the Permittee is authorized to operate the devices and or processes identified in Sections III, IV, V and VI within the terms and conditions specified in this Permit.

III. Significant Activities Identification:

- A. The activities identified in the following table (Table 1) are subject to and regulated by this Title V Operating Permit:

Table 1 - Significant Activity Identification			
Emission Unit Number	Description of Emission Unit	Exhaust Stack Identification	Emissions Unit Maximum

Table 1 - Significant Activity Identification			
(EU#)			Allowable Permitted Capacity
EU1	Fiberglass Production Line	Stack #1 (Resin Mixer) Stack #2 (Glass Chopper) Stack #3 (Squeeze Roll) Stack #4 (West Wall Fan) Stack #5 (West Roof Fan) Stack #6 (East Roof Fan)	48.5 tons VOC emissions during any consecutive 12 month period inclusive of fuel burning devices; not more than 40 percent by weight monomer content, as applied, for resins containing methyl methacrylate ("MMA"); not more than 35 percent by weight monomer content, as applied, for all other resins (e.g. styrene)

Stack Criteria:

- B.** The following stacks for the above listed significant devices at this facility shall discharge without obstruction (no rain caps) and meet the following criteria in accordance with the state-only modeling requirements specified in Env-A 1300 and Env-A 1400:

Table 2 - Stack Criteria			
Stack #	Minimum Stack Height (Feet) Above Ground Level	Maximum Stack Diameter (Feet)	Minimum Air Flow (ACFM)
Stack #1 (Resin Mixer)	28.6 , 60 deg. Bend down	21" X 21"	1634
Stack #2 (Glass Chopper)	14.4 , Horiz.	1.5	1421
Stack #3 (Squeeze Roll)	25.4 , 90 deg. Parallel to Roof	16" X 25"	3558
Stack #4 (West Wall Fan)	16.0 , Horiz. Discharge	3.0	10743
Stack #5 (West Roof Fan)	27.9 , Vertical	4.65	18547
Stack #6 (East Roof Fan)	27.9 , Vertical	4.65	Seasonal Use

Preauthorized changes to the state-only requirements pertaining to stack parameters (set forth in this permit), shall be permitted only when an air quality impact analysis which meets the criteria of Env-A 606 is performed either by the facility or the DES (if requested by facility in writing) in accordance with the "DES Policy and Procedure for Air Quality Impact Modeling". All air modeling data shall be kept on file at the facility for review by the DES upon request.

IV. Insignificant Activities Identification:

All activities at this facility that meet the criteria identified in the New Hampshire Rules Governing the Control of Air Pollution Part Env-A 609.03(g), shall be considered insignificant activities. Emissions from the insignificant activities shall be included in the total facility emissions for the emission-based fee calculation described in Section XXIII of this Permit.

V. Exempt Activities Identification:

All activities identified in the New Hampshire Rules Governing the Control of Air Pollution Env-A 609.03(c) shall be considered exempt activities and shall not be subject to or regulated by this Title V Operating Permit.

VI. Pollution Control Equipment Identification:

The devices and/or processes identified in Table 1 do not operate with any pollution control equipment.

VII. Alternative Operating Scenarios:

No alternative operating scenarios were identified for this Permit.

VIII. Applicable Requirements:**VIII. A. State-only Enforceable Operational and Emission Limitations¹:**

The Permittee shall be subject to the state-only operational and emission limitations identified in Table 3 below.

Table 3 - State-only Enforceable Operational and Emission Limitations			
Item #	Regulatory Cite	Applicable Emission Unit	Applicable Requirement
1.	Env-A 1305.01(a)	Facility Wide	New or modified devices, new or modified area sources, and existing devices or area sources for which new applications for permits are filed that have the potential to emit, in any amount, substances that meet the criteria of Env-A 1301 shall be subject to Env-A 1300, until such time as the Env-A 1400 requirements supersede the Env-A 1300 requirements. (As outlined below)
2.	Env-A 1305.02	Facility Wide	Air quality impact analysis of devices and area sources emitting substances meeting the criteria of Env-A 1301 shall be performed in accordance with the “DES Policy and Procedure for Air Quality Impact Modeling” or other comparable dispersion modeling methods approved by EPA.
3.	Env-A 1403.01	Facility Wide	In accordance with Env-A 1403.01, new or modified devices or processes installed after May 8, 1998, shall be subject to the requirements of Env-A 1400.
4.	Env-A 1403.02(a)	Facility Wide	In accordance with 1403.02(a), all existing unmodified devices or processes which are in operation during the transition period ending three years from May 8, 1998 (May 8, 2001), shall comply with either Env-A 1300 or Env-A 1400.
5.	Env-A 1403.02(b)	Facility Wide	In accordance with Env-A 1403.02(b), all existing devices or processes in operation after the transition period ending three years from May 8, 1998 (May 8, 2001), shall comply with Env-A 1400. Env-A 1300 will no longer be in effect.
6.	Env-A 1404.01(d)	Facility Wide	In accordance with Env-A 1404.01(d), documentation for the demonstration of compliance shall be retained at the site, and shall be made available to the DES for inspection.
7.	Env-A 1405.02	Facility Wide	In accordance with Env-A 1405.02 the owner of an existing device or process requiring a permit under chapter Env-A 1400 shall submit to the DES no later than one year prior to the end of the transition period (May 8, 2000), an application for a modification to a title V permit in accordance with Env-A 609.18, and a request to the DES to perform air dispersion modeling.

¹ Kalwall conducted stack testing in September 1999, using EPA Method 18, for use in determining compliance with the State Air Toxics Regulations contained in Env-A 1400. The two highest use resins, one containing styrene only (Resin 6588-1) and one containing both methyl methacrylate (MMA) and styrene (Resin 6707-8) were run at maximum operating rates of 130 gallons per hour and 60 gallons per hour respectively. Modeling conducted using the emission data and stack physical parameters indicates the facility to be in compliance with the 24 hour and annual ambient air limits for styrene and MMA at these maximum operating rates. No further permit restrictions outside of the VOC RACT requirements and total facility wide VOC emission limit of 48.5 tons are required.

Table 3 - State-only Enforceable Operational and Emission Limitations

8.	Env-A 1405.03	Facility Wide	In accordance with Env-A 1405.03 the owner of an existing device or process requiring a permit under Env-A 1300 shall submit to the DES no later than one year prior to the end of the transition period (May 8, 2000), a compliance plan identifying how the device or process will comply with chapter Env-A 1400 by the end of the transition period. The compliance plan shall contain the dates when the information required in Env-A 1405.02 will be filed with the DES.
9.	Env-A 1406.01	Facility Wide	In accordance with Env-A 1406.01 the owner of any device or process which emits a regulated toxic air pollutant shall determine compliance with the ambient air limits by using one of the methods provided in Env-A 1406.02, Env-A 1406.03, or Env-A 1406.04. Upon request, the owner of any device or process which emits a regulated toxic air pollutant shall provide documentation of compliance with the ambient air limits to the DES.

VIII. B. Federally Enforceable Operational and Emission Limitations

The Permittee shall be subject to the Facility wide operational and emission limitations identified in Table 4 below.

Table 4 - Federally Enforceable Operational and Emission Limitations

Item #	Regulatory Cite	Applicable Emission Unit	Applicable Requirement																														
1.	Env-A 2103.01(b) Env-A 2103.01(c) Env-A 2103.02(b)	Facility Wide	<p>No person shall cause or allow the emission of particulate matter at such source or device to exceed those emission standards specified for "Existing Devices" as listed in Table 2103-1, below.</p> <p><u>Table 2103-1 Particulate Matter Emission Standards</u></p> <table><tr><td>Process Weight Rate (pounds per hour):</td><td>Emission Standard for “Existing Devices” Installed Prior to or on February 18, 1972 (pounds per hour):</td></tr><tr><td>50</td><td>0.43</td></tr><tr><td>100</td><td>0.68</td></tr><tr><td>500</td><td>1.99</td></tr><tr><td>1,000</td><td>3.17</td></tr><tr><td>5,000</td><td>9.35</td></tr><tr><td>10,000</td><td>14.85</td></tr><tr><td>20,000</td><td>23.62</td></tr><tr><td>60,000</td><td>49.31</td></tr><tr><td>80,000</td><td>51.03</td></tr><tr><td>120,000</td><td>55.55</td></tr><tr><td>160,000</td><td>58.88</td></tr><tr><td>200,000</td><td>61.53</td></tr><tr><td>1,000,000</td><td>82.75</td></tr><tr><td>2,000,000</td><td>93.11</td></tr></table> <p>Where the process weight rate is not explicitly stated in Table 2103-1, above, the maximum allowable particulate matter emission rate shall be calculated by the following equation:</p> $E = 5.05 P^{0.67}$ <p>Where: “E” means the maximum allowable particulate matter emission rate in pounds per hour; and “P” means the process weight rate in tons per hour.</p>	Process Weight Rate (pounds per hour):	Emission Standard for “Existing Devices” Installed Prior to or on February 18, 1972 (pounds per hour):	50	0.43	100	0.68	500	1.99	1,000	3.17	5,000	9.35	10,000	14.85	20,000	23.62	60,000	49.31	80,000	51.03	120,000	55.55	160,000	58.88	200,000	61.53	1,000,000	82.75	2,000,000	93.11
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2.	Env-A 2107.01 & FP-T-0052	Facility Wide	No owner or operator shall cause or allow visible fugitive emissions or visible stack emissions for any process, manufacturing or service-based industry subject to this chapter to exceed an average of 20 percent opacity for any continuous 6-minute period in any 60-minute period.																														
3.	40 CFR 52 ²	Facility Wide	Gaseous fuel shall contain no more than 5 grains of sulfur per 100 cubic feet of gas, calculated as hydrogen sulfide at standard temperature and pressure.																														

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Env-A 402.03, effective on December 27, 1990, was adopted as part of the State Implementation Plan (SIP) on September 14, 1992 and is still considered federally enforceable until such time as the SIP is amended and approved by the EPA.

Table 4 - Federally Enforceable Operational and Emission Limitations

4.	40 CFR 68	Facility Wide	<p>Storage of propane at the facility, includes an 18,000 gallon tank, shared between permittee and Structures Unlimited, Inc., but is exempt from the program requirements in 40 CFR 68 requiring a Risk Management Plan to be submitted by June 21, 1999..</p> <p>The facility is subject to the Purpose and General Duty clause of the 1990 Clean Air Act, Section 112(r)(1). General Duty includes the following responsibilities:</p> <ol style="list-style-type: none"> 1. Identify potential hazards which may result from such releases using appropriate hazard assessment techniques; 2. Design and maintain a safe facility; 3. Take steps necessary to prevent releases; and 4. Minimize the consequences of accidental releases which do occur.
5.	40 CFR 63	Facility Wide	<p>Permittee shall be subject to a future MACT for the Reinforced Plastic Composites Production source category, tentatively scheduled for completion in November 2000. If such MACT standard is promulgated greater than two years prior to the expiration of this operating permit, this permit will be reopened and reissued with the new MACT standard as it applies to the facility, otherwise it will be incorporated into the renewal of this operating permit. Permittee is responsible for compliance with any new regulations and associated compliance deadlines which become effective during the life of this operating permit.</p>

VIII. C. Volatile Organic Compound (VOC) Reasonably Available Control Technology (RACT) Requirements:

1. Pursuant to Final RACT Order ARD-95-007, the federally enforceable requirements in VIII.C.2. through VIII.C.4. shall be met.
2. Meet the following requirements as RACT:
 - a. Do not exceed a monomer content, as applied, of the resins as follows:
 - i. Not more than 40 percent by weight for resins containing methyl methacrylate (“MMA”); and
 - ii. Not more than 35 percent by weight for all other resins (e.g. styrene).
 - b. Do not use VOC-containing cleaners. (Note: Acetone is not considered a VOC, i.e. it is exempt.)
 - c. Use the continuous lamination process to manufacture all flat sheet panels. Do not utilize the spray or hand lay-up technique for any manufacturing.
 - d. Do not strip the carrier film from the produced flat sheet until after the laminate has cooled to ambient temperature.
 - e. Record the monthly usage/emissions of all resins and cleaners containing VOC’s, including, but not limited to those listed in Appendix A of the RACT statement (Confidential proprietary information for DES use only).
 - f. Report the above information in VIII.C.2.e. annually, **no later than April 15** for the preceding calendar year.
3. Determine compliance with VIII.C.2.a.i. and ii. as follows:
 - a. Maintain records (furnished by the resin supplier) of certified laboratory analyses documenting each monomer content of each tank truck load delivered and calculations (applicable when filler is added) of the “as applied” monomer contents;
 - b. Conduct periodic random testing of “as applied” resins to confirm the results of the analyses in a., above, as follows:
 - i. Contract with an independent, certified, third party laboratory, who will perform the analyses;
 - ii. Sample 50% of the “as applied” resins during each consecutive 12-month period (approximately 6 samples), such that all types (approximately 12) of resins will be tested a minimum of one time during each consecutive 24-month period; and
 - iii. Submit annual reports of the information required in 3.b.i. & ii. **no later than**

April 15 for each calendar year; and

- c. Use the appropriate test method(s), as listed in Appendix A, Section VII. of Appendix I of the RACT statement (Attachments A and B of this Title V Operating Permit) for each analysis required in 3.a. or 3.b.
- 4. Permittee shall follow the record keeping requirements of Env-A 903.02, Env-A 904.02, and those listed in Appendix I of the RACT statement (Attachment C of this Title V Operating Permit).

VIII. D. Emission Reductions Trading Requirements

The Permittee did not request emissions reduction trading in its operating permit application. At this point, DES has not included any permit terms authorizing emissions trading in this permit. All emission reductions trading, must be authorized under the applicable requirements of either Env-A 3000 (the “Emissions Reductions Credits (or ERCs) Trading Program”) or Env-A-3100 (the “Discrete Emissions Reductions (or DEC)s Trading Program) and 42 U.S.C. §7401 et seq. (The “Act”), and must be provided for in this permit.

VIII. E. Monitoring and Testing Requirements

The Permittee is subject to the federally enforceable monitoring and testing requirements as contained in Table 5, below:

Table 5 - Monitoring/Testing Requirements					
Item #	Control Device	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite
1.	Low monomer content Resins	Control of VOC emissions through the use of compliant resins	When compliance is by low monomer content resins, the monomer content and applicable physical properties shall be determined using the appropriate test method(s), as listed in Appendix A, Section VII. of Appendix I of the RACT statement (Attachments A and B of this Title V Operating Permit) for each type resin analysis.	All low monomer content resins subject to the applicable requirements of VOC RACT. Submit 50% of the “as applied” resins types during each consecutive 12-month period, such that all types of resins will be tested a minimum of one time during each consecutive 24-month period. In addition testing shall be performed whenever changes are made in resin constituents or resin formulation.	Env-A 803 & VOC RACT Order ARD-95-007 Federally Enforceable
2.	Facility Stacks	Allows for adequate dispersion of HAPs and other regulated pollutants	Conduct an annual inspection of each stack and fuel burning device. Inspections shall include documenting any leaks, holes, rusting and/or disrepair of stacks, and the manufacturer’s recommended periodic physical, mechanical, and electrical system checks for the fuel burning equipment. Records of inspections and subsequent maintenance conducted as a result of the annual inspections shall be kept on file at the Facility for review by the DES and/or EPA upon request.	Annually	40 CFR 70.6(a)(3) Federally Enforceable

VIII. F. Record keeping Requirements:

The Permittee shall be subject to the federally enforceable record keeping requirements identified in Table 6 below.

Table 6 - Applicable Record keeping Requirements				
Item #	Record keeping Requirement	Frequency of Record keeping	Applicable Emission Unit	Regulatory Cite
1.	The Permittee shall retain records of all required monitoring data, record keeping and reporting requirements, and support information for a period of at least 5 years from the date of the origination.	Retain for a minimum of 5 years	Facility wide	40 CFR 70.6(a)(3)(ii)(B) Federally Enforceable
2.	The Permittee shall maintain records of monitoring and testing requirements as specified in Table 5 of this permit including: <ul style="list-style-type: none"> (a) Monomer content and appropriate physical properties of all resin types sampled “as applied” and tested; and (b) Preventative maintenance and inspection results for stacks and fuel burning devices. 	Maintain on a continuous basis as specified in Table 5 of this permit	Facility wide	40 CFR 70.6(a)(3)(iii)(A) Federally Enforceable
3.	Maintain records (furnished by the resin supplier) of certified laboratory analyses documenting each monomer content of each tank truck load delivered and calculations (applicable when filler is added) of the “as applied” monomer contents.	Maintain on a continuous basis	Facility wide	40 CFR 70.6(a)(3)(i)(A) and VOC RACT Order ARD-95-007 Federally Enforceable
4.	<u>General Record keeping Requirements for Process Operations.</u> The owner or operator of each process operation shall keep monthly records or records for an alternative time period as approved by the division in accordance with Env-A 912, of raw material utilization in accordance with the following: <ul style="list-style-type: none"> A. Records shall be kept regarding the total quantities of all raw materials utilized in each process which are required to calculate emissions, verify applicability and compliance with all emission limitations, or to verify production capacities and quantities; and B. Sources operating one or more processes which emit air pollutants through more than one emission point shall record the hours of operation of each process so that the distribution of the raw materials or emissions among such emission points can be estimated. 	Maintain on a continuous basis	Facility wide	Env-A 903.02, VOC RACT Order ARD-95-007, & FP-T-0052 Federally Enforceable
5.	<u>General Record keeping Requirements for Combustion Devices.</u> <ul style="list-style-type: none"> A. The owner or operator of a combustion device shall maintain monthly records or records for an alternative time period as approved by the division in accordance with Env- 	Monthly and annually	Facility Wide	Env-A 903.03 & FP-T-0052 Federally Enforceable

Table 6 - Applicable Record keeping Requirements

	<p>A 912, of fuel characteristics and utilization, including primary, secondary, tertiary and auxiliary fuels in accordance with the following:</p> <ol style="list-style-type: none"> (1) For applicable solid fuels, including coal, pursuant to Env-A 1603.03: <ol style="list-style-type: none"> a. Consumption; b. Fuel type; c. Ash content; d. Sulfur content as percent sulfur by weight of fuel; and e. BTU content per pound of fuel; (2) For wood and bark including saw/sander dust: <ol style="list-style-type: none"> a. Consumption; and b. Fuel type; (3) For applicable liquid fuels, pursuant to Env-A 1603.01: <ol style="list-style-type: none"> a. Consumption; b. Fuel type; and c. Sulfur content as percent sulfur by weight of fuel; (4) For applicable gaseous fuels, pursuant to Env-A 1603.02: <ol style="list-style-type: none"> a. Consumption; b. Fuel type; and c. Sulfur content as percent sulfur by weight of fuel or in grains per 100 cubic feet of fuel. 			
6.	<p><u>General VOC Record keeping.</u> The owner or operator of any stationary source, area source or device subject to this part shall record and maintain the following information at the facility:</p> <ol style="list-style-type: none"> A. Identification of each VOC-emitting process or device, except: <ol style="list-style-type: none"> (1) Processes or devices associated exclusively with non-core activities, as defined in Env-A 1204.03(ba); and (2) Processes or devices emitting only exempt VOCs as defined in Env-A 1204.03(z); B. The operating schedule during the high ozone season for each VOC-emitting process or device identified in (a), above, including: <ol style="list-style-type: none"> (1) Hours of operation per calendar month; and (2) Days of operation per calendar month; C. The following VOC emission data: <ol style="list-style-type: none"> (1) Actual VOC emissions from each VOC-emitting process or device identified in (a), above for: <ol style="list-style-type: none"> a. Each month, each monthly consecutive twelve month period, and each calendar year, in tons; and b. A high ozone season day during that calendar year, in pounds per day; and (2) The emission factors and the origin of the emission factors used to calculate the VOC 	Monthly, consecutive twelve month period, and annually	Facility Wide	Env-A 904.02, VOC RACT Order ARD-95-007, & FP-T-0052 Federally Enforceable

Table 6 - Applicable Record keeping Requirements

	emissions.			
7.	<p>Kalwall shall comply with the following requirements:</p> <p>A. Maintain, or have available, a current list of resins and cleaning materials in use which provides all of the data necessary to evaluate compliance, including the following information, as applicable:</p> <ol style="list-style-type: none"> (1) Resin, cleaning, and catalyst materials used; (2) The weight percent of VOC in each of the polyester resin materials, and the grams of VOC per liter for the cleaning materials; and (3) For approved vapor suppressed resins, the weight loss (grams per square meter) during resin polymerization, the monomer percentage, and the gel time for each resin. <p>B. Kalwall shall have available records that provide the following information, as applicable:</p> <ol style="list-style-type: none"> (1) The amount of each of the polyester resin materials and cleaning materials used during each day of operation; and (2) The volume of resin and cleaning materials used for touch-up and repair during each day of operation. <p>C. Such records shall be retained for the previous 24 month period and be available at the time of inspection.</p>	Daily, maintain at facility at all times.	Facility Wide	VOC RACT Order ARD-95-007 Federally Enforceable
8.	Record the monthly usage/emissions of all resins and cleaners containing VOC's, including but not limited to those listed in Appendix A of the RACT statement (Confidential proprietary information for DES use only). In addition, tabulate consecutive 12 month period totals of VOC emissions for the facility.	Maintain at facility at all times.	Facility Wide	VOC RACT Order ARD-95-007 Federally Enforceable

VIII. G. Reporting Requirements:

The Permittee shall be subject to the federally enforceable reporting requirements identified in Table 7 below.

Table 7 - Applicable Reporting Requirements				
Item #	Reporting Requirement	Frequency of Reporting	Applicable Emission Unit	Regulatory Cite
1.	Submit a summary report including the independent, certified, third party laboratory analyses for monomer content determinations in the resins submitted for analysis for the prior calendar year.	Annually (no later than April 15th of the following year)	Facility Wide	VOC RACT Order ARD-95-007 Federally Enforceable
2.	Submit an annual report showing the monthly usage & emissions of all resins and cleaners containing VOCs, including, but not limited to those listed in Appendix A of the RACT statement (Confidential proprietary information for DES use only).	Annually (no later than April 15th of the following year)	Facility Wide	VOC RACT Order ARD-95-007 Federally Enforceable
3.	<p><u>General Reporting Requirements.</u></p> <p>A. The owner or operator of any stationary source, area source or device subject to Env-A 600 shall submit an annual emissions report.</p> <p>B. The annual emissions report pursuant to (a) above, shall include the following information:</p> <ul style="list-style-type: none"> (1) The actual emissions of the stationary source, area source or device and the methods used in calculating such emissions in accordance with Env-A 704.02; (2) For process operations, all information in accordance with Env-A 903.02; (3) For combustion devices, all information in accordance with Env-A 903.03; and (4) The actual annual emissions speciated by individual regulated air pollutants, including a breakdown of VOC emissions by compound. <p>C. Beginning with calendar year 1999, the annual emissions report pursuant to (a) above, shall be submitted to the division on or before April 15 of the following year. For calendar year 1999, the annual emissions report shall be submitted to the division on or before April 15, 2000.</p>	Annually (no later than April 15th of the following year)	Facility Wide	Env-A 907.01 & FP-T-0052 Federally Enforceable
4.	<p><u>VOC Emissions Statement Reporting Requirements</u></p> <p>The owner or operator of any stationary source or device subject to the reporting requirements of this part shall submit the following information to the director in accordance with the schedule set-forth in Env-A 908.02, above:</p> <ul style="list-style-type: none"> (1) Facility information, including: <ul style="list-style-type: none"> a. Source name; b. Standard Industrial Classification (SIC) code; 	Annually (no later than April 15th of the following year)	Facility Wide	Env-A 908 & FP-T-0052 Federally Enforceable

Table 7 - Applicable Reporting Requirements

	<p>c. Physical address; and d. Mailing address;</p> <p>(2) Identification of each VOC-emitting process or device operating at the source identified in (1), above;</p> <p>(3) Operating schedule during the high ozone season for each VOC-emitting process or device identified in (2), above, including: a. Hours of operation per calendar day; and b. Days of operation per calendar week; and</p> <p>(4) Total quantities of actual VOC emissions for the entire facility and for each process or device identified in (2), above, including: a. Annual VOC emissions, in tons; b. Monthly VOC emissions, in tons; c. Consecutive 12 month facility wide VOC emissions at the end of each of the twelve months in the calendar year period; and d. Typical high ozone season day VOC emissions, in pounds per day.</p>			
5.	Prompt reporting of deviations from Permit requirements within 24 hours of such an occurrence by phone or fax in accordance with Section XXVIII. of this Permit.	Prompt reporting (ie; within 24 hours of an occurrence).	Facility Wide	40 CFR 70.6(a)(3)(iii) (B) Federally Enforceable
6.	<p>Summary report of monitoring and testing requirements shall be submitted every 6 months. All instances of deviations from Permit requirements must clearly be identified in such reports. All required reports must be certified by a responsible official consistent with section 70.5(d). The report shall contain a summary of the following information:</p> <p>(a) Method 24 40 CFR 60, Appendix A, low-VOC coating results in lb VOC per gallon of coating ; (b) Preventative maintenance and inspection results for stacks and fuel burning devices; and (c) Permit deviations.</p>	Every 6 months by July 31st and January 31st of each calendar year.	Facility Wide	40 CFR 70.6(a)(3)(iii) (A) Federally Enforceable
7.	Any report submitted to the DES and/or EPA shall include the certification of accuracy statement as outlined in Section XXI.B. of this Permit and shall be signed by the responsible official.	As specified	Facility wide	40 CFR 70.6(c)(1) Federally Enforceable
8.	Annual reporting of emission based fees and payment of emission based fees shall be conducted in accordance with Section XXIII of this Permit	As specified in Section XXIII	Facility wide	Env-A 704.03 Federally Enforceable
9.	Annual compliance certification shall be submitted in accordance with Section XXI. A. of this Permit.	Annually, by April 15th of the following year.	Facility wide	40 CFR 70.6(c)(1) Federally Enforceable

IX. Requirements Currently Not Applicable:

The Permittee did not identify any requirements which are not applicable to the facility.

General Title V Operating Permit Conditions

X. Issuance of a Title V Operating Permit:

- A. This Permit is issued in accordance with the provisions of Part Env-A 609. In accordance with 40 CFR 70.6(a)(2) this Permit shall expire on the date specified on the cover page of this Permit, which shall not be later than the date five (5) years after issuance of this Permit.

Permit expiration terminates the Permittee's right to operate the Permittee's emission units, control equipment or associated equipment covered by this Permit, unless a timely and complete renewal application is submitted at least 6 months before the expiration date.

- B. Pursuant to Env-A 609.02(b), this Permit shall be a state permit to operate as defined in RSA 125-C:11, III.

XI. Title V Operating Permit Renewal Procedures:

Pursuant to Env-A 609.06(b), an application for renewal of this Permit shall be considered timely if it is submitted to the Director at least six months prior to the designated expiration date of this Permit.

XII. Application Shield:

Pursuant to Env-A 609.07, if an applicant submits a timely and complete application for the issuance or renewal of a Permit, the failure to have a Permit shall not be considered a violation of this part until the Director takes final action on the application.

XIII. Permit Shield:

- A.** Pursuant to Env-A 609.08(a), a permit shield shall provide that:
 - 1.** For any applicable requirement or any state requirement found in the New Hampshire Rules Governing the Control of Air Pollution specifically included in this Permit, compliance with the conditions of this Permit shall be deemed compliance with said applicable requirement or said state requirement as of the date of permit issuance; and
 - 2.** For any potentially applicable requirement or any potential state requirement found in the New Hampshire Rules Governing the Control of Air Pollution specifically identified in Section IX of this Permit as not applicable to the stationary source or area source, the Permittee need not comply with the specifically identified federal or state requirements.
- B.** The permit shield identified in Section XIII.A. of this Permit shall apply only to those conditions incorporated into this Permit in accordance with the provisions of Env-A 609.08(b). It shall not apply to certain conditions as specified in Env-A 609.08(c) that may be incorporated into this Permit following permit issuance by DES.
- C.** If a Title V Operating Permit and amendments there to issued by the DES does not expressly include or exclude an applicable requirement or a state requirement found in the NH Rules Governing the Control of Air Pollution, that applicable requirement or state requirement shall not be covered by the permit shield and the Permittee shall comply with the provisions of said requirement to the extent that it applies to the Permittee.
- D.** If the DES determines that this Title V Operating Permit was issued based upon inaccurate or incomplete information provided by the applicant or Permittee, any permit shield provisions in said Title V Operating Permit shall be void as to the portions of said Title V Operating Permit which are affected, directly or indirectly, by the inaccurate or incomplete information.
- E.** Pursuant to Env-A 609.08(f), nothing contained in Section XIII of this Permit shall alter or affect the ability of the DES to reopen this Permit for cause in accordance with Env-A 609.18 or to exercise its summary abatement authority.
- F.** Pursuant to Env-A 609.08(g), nothing contained in Section XIII of this Permit or in any Title V Operating Permit issued by the DES shall alter or affect the following:
 - 1.** The ability of the DES to order abatement requiring immediate compliance with applicable requirements upon finding that there is an imminent and substantial endangerment to public health, welfare, or the environment;
 - 2.** The state of New Hampshire's ability to bring an enforcement action pursuant to RSA 125-C:15,II;
 - 3.** The provisions of section 303 of the Act regarding emergency orders including the authority of the EPA Administrator under that section;

4. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of Permit issuance;
5. The applicable requirements of the acid rain program, consistent with section 408(a) of the Act;
6. The ability of the DES or the EPA Administrator to obtain information about a stationary source, area source, or device from the owner or operator pursuant to section 114 of the Act; or
7. The ability of the DES or the EPA Administrator to enter, inspect, and/or monitor a stationary source, area source, or device.

XIV. Reopening for Cause:

The Director shall reopen and revise a Title V Operating Permit for cause if any of the circumstances contained in Env-A 609.18(a) exist. In all proceedings to reopen and reissue a Title V Operating Permit, the Director shall follow the provisions specified in Env-A 609.18(b) through (g).

XV. Administrative Permit Amendments:

- A. Pursuant to Env-A 612.01, the Permittee may implement the changes addressed in the request for an administrative permit amendment as defined in Part Env-A 100 immediately upon submittal of the request.
- B. Pursuant to Env-A 612.01, the Director shall take final action on a request for an administrative permit amendment in accordance with the provisions of Env-A 612.01(b) and (c).

XVI. Operational Flexibility:

- A. Pursuant to Env-A 612.02(a), the Permittee subject to and operating under this Title V Operating Permit may make changes involving trading of emissions under this existing Title V Operating Permit at the permitted stationary source or area source without filing a Title V Operating Permit application for and obtaining an amended Title V Operating Permit, provided that all the conditions are met as specified in Section XVI. A. 1. through 7. of this permit and a notice is submitted to the DES and EPA describing the intended changes. At this point, DES has not included any permit terms authorizing emissions trading in this permit.
 1. The change is not a modification under any provision of title I of the Act;
 2. The change does not cause emissions to exceed the emissions allowable under the Title V Operating Permit, whether expressed therein as a rate of emissions or in terms of total emissions;
 3. The owner or operator has obtained any Temporary Permit required by Env-A 600;
 4. The owner or operator has provided written notification to the Director and Administrator at least 15 days prior to the proposed change and such written

notification includes:

- a. The date on which each proposed change will occur;
 - b. A description of each such change;
 - c. Any change in emissions that will result and how this change in emissions will comply with the terms and conditions of the permit;
 - d. A written request that the operational flexibility procedures be used; and
 - e. The signature of the responsible official, consistent with Env-A 605.04(b);
5. The Title V Operating Permit issued to the stationary source or area source already contains terms and conditions including all terms and conditions which determine compliance required under 40 CFR 70.6(a) and (c) and which allow for the trading of emissions increases and decreases at the permitted stationary source or area source solely for the purpose of complying with a federally-enforceable emissions cap that is established in the Permit independent of otherwise applicable requirements;
 6. The owner or operator has included in the application for the Title V Operating Permit proposed replicable procedures and proposed Permit terms which ensure that the emissions trades are quantifiable and federally enforceable for changes to the Title V Operating Permit which qualify under a federally- enforceable emissions cap that is established in the Title V Operating Permit independent of the otherwise applicable requirements; and
 7. The proposed change complies with Env-A 612.02 (e).
- B.** Pursuant to Env-A 612.02(c), the Permittee subject to and operating under this Title V Operating Permit may make changes not addressed or prohibited by this existing Title V Operating Permit at the permitted stationary source or area source without filing a Title V Operating Permit application, provided that all the conditions specified in Env-A 612.02(c)(1) through (6) are met and a notice is submitted to the DES and EPA describing the intended changes.
 - C.** Pursuant to Env-A 612.02(d), the Permittee, Operator, Director and Administrator shall attach each notice of an off-permit change completed in accordance with Section XVI of this Title V Operating Permit to their copy of the current Title V Operating Permit.
 - D.** Pursuant to Env-A 612.02(e), any change under Section XVI shall not exceed any emissions limitations established under the NH Rules Governing the Control of Air Pollution, or result in an increase in emissions, or result in new emissions, of any toxic air pollutant or hazardous air pollutant other than those listed in the existing Permit.
 - E.** Pursuant to Env-A 612.02(f), the off-permit change shall not qualify for the permit shield under Env-A 609.08.

XVII. Minor Permit Amendments:

- A. Pursuant to Env-A 612.04 prior to implementing a minor permit modification, the Permittee shall submit a written request to the Director in accordance with the requirements of Env-A 612.04(b).
- B. The Director shall take final action on the minor permit amendment request in accordance with the provisions of Env-A 612.04(c) through (g).
- C. Pursuant to Env-A 612.04(h), the permit shield specified in Env-A 609.08 shall not apply to minor permit amendments under Section XVII. of this Permit.
- D. Pursuant to Env-A 612.04(i), the Permittee shall be subject to the provisions of Part Env-A 614 and Part Env-A 615 if the change is made prior to the filing with the Director a request for a minor permit amendment.

XVIII. Significant Permit Amendments:

- A. Pursuant to Env-A 612.05, a change at the facility shall qualify as a significant permit amendment if it meets the criteria specified in Env-A 612.05(a)(1) through (7).
- B. Prior to implementing the significant permit amendment, the Permittee shall submit a written request to the Director and to the EPA which includes all the information as referenced in Env-A 612.05(b) and (c) and shall be issued an amended Title V Operating Permit from the DES. The Permittee shall be subject to the provisions of Env-A 614 and Env-A 615 if a request for a significant permit amendment is not filed with the Director and/or the change is made prior to the issuance of an amended Title V Operating Permit.
- C. The Director shall take final action on the significant permit amendment in accordance with the procedures specified in Env-A 612.05(d), (e) and (f).

XIX. Title V Operating Permit Suspension, Revocation or Nullification:

- A. Pursuant to RSA 125-C:13, the Director may suspend or revoke any final permit issued hereunder if, following a hearing, the Director determines that:
 - 1. the Permittee has committed a violation of any applicable statute or state requirement found in the New Hampshire Rules Governing the Control of Air Pollution, Order or Permit condition in force and applicable to it; or
 - 2. that the emissions from any device to which this Permit applies, alone or in conjunction with other sources of the same pollutants, presents an immediate danger to the public health.
- B. The Director shall nullify any Permit, if following a hearing in accordance with RSA 541-A:30, II, a finding is made that the Permit was issued in whole or in part based upon any information proven to be intentionally false or misleading.

XX. Inspection and Entry:

Pursuant to Env-A 614.01, EPA and DES personnel shall be granted access to the facility covered by this Permit, in accordance with RSA 125-C:6, VII for the purposes of: inspecting the proposed or permitted site; investigating a complaint; and assuring compliance with any applicable requirement or state requirement found in the NH Rules Governing the Control of Air Pollution and/or conditions of any Permit issued pursuant to Chapter Env-A 600.

XXI. Certifications:**A. Compliance Certification Report**

In accordance with 40 CFR 70.6(c) the Responsible Official shall certify, annually from the date of issuance, that the facility is in compliance with the requirements of this Permit. The report shall be submitted to the DES and to the Regional Administrator, U.S. Environmental Protection Agency - New England Region at the following address:

Office of Environmental Stewardship
 Director Air Compliance Program
 United States Environmental Protection Agency
 1 Congress Street
 Suite 1100 (SEA)
 Boston, MA 02114-2023
 Attn: Air Compliance Clerk

The report shall be submitted in compliance with the submission requirements below.

In accordance with 40 CFR 70.6(c)(5), the report shall describe:

1. The terms and conditions of the Permit that are the basis of the certification;
2. The current compliance status of the source with respect to the terms and conditions of this Permit, and whether compliance was continuous or intermittent during the reporting period;
3. The methods used for determining compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods; and
4. Any additional information required by the DES to determine the compliance status of the source.

B. Certification of Accuracy Statement

All documents submitted to the DES shall contain a certification of accuracy statement by the responsible official of truth, accuracy, and completeness. Such certification shall be in accordance with the requirements of 40 CFR 70.5(d) and contain the following language:

"I am authorized to make this submission on behalf of the facility for which the submission is made. Based on information and belief formed after reasonable inquiry, I certify that the statements and information in the enclosed documents are to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

XXII. Enforcement:

Any noncompliance with a Permit condition constitutes a violation of RSA 125-C:15, and, as to the conditions in this Permit which are federally enforceable, a violation of the Clean Air Act, 42 U.S.C. section 7401 et seq., and is grounds for enforcement action, for Permit termination or revocation, or for denial of an Operating Permit renewal application by the DES and/or EPA. Noncompliance may also be grounds for assessment of administrative, civil or criminal penalties in accordance with RSA 125-C:15 and/or the Clean Air Act. This Permit does not relieve the Permittee from the obligation to comply with any other provisions of RSA 125-C, the New Hampshire Rules Governing the Control of Air Pollution, or the Clean Air Act, or to obtain any other necessary authorizations from other governmental agencies, or to comply with all other applicable Federal, State, or Local rules and regulations, not addressed in this Permit.

In accordance with 40 CFR 70.6 (a)(6)(ii) a Permittee shall not claim as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

XXIII. Emission-Based Fee Requirements:

- A. The Permittee shall pay an emission-based fee annually for this facility as calculated each calendar year pursuant to Env-A 704.03.
- B. The Permittee shall determine the total actual annual emissions from the facility to be included in the emission-based multiplier specified in Env-A 704.03(a) for each calendar year in accordance with the methods specified in Env-A 620.
- C. The Permittee shall calculate the annual emission-based fee for each calendar year in accordance with

$$FEE = E * DPT * CPI_m * ISF$$

the procedures specified in Env-A 704.03 and the following equation:

Where:

- FEE = The annual emission-based fee for each calendar year as specified in Env-A 704.
- E = The emission-based multiplier is based on the calculation of total annual emissions as specified in Env-A 704.02 and the provisions specified in Env-A 704.03(a).
- DPT = The dollar per ton fee the DES has specified in Env-A 704.03(b).
- CPI_m = The Consumer Price Index Multiplier as calculated in Env-A 704.03(c).
- ISF = The Inventory Stabilization Factor as specified in Env-A 704.03(d).

- D. The Permittee shall contact the DES each calendar year for the value of the Inventory Stabilization Factor.

- E. The Permittee shall contact the DES each calendar year for the value of the Consumer Price Index Multiplier.
- F. The Permittee shall submit, to the DES, payment of the emission-based fee and a summary of the calculations referenced in Sections XXIII.B. and C of this Permit for each calendar year by October 15th of the following calendar year in accordance with Env-A 704.04. The emission-based fee and summary of the calculations shall be submitted to the following address:

New Hampshire Department of Environmental Services
 Air Resources Division
 6 Hazen Drive
 P.O. Box 95
 Concord, NH 03302-0095
 ATTN: Emissions Inventory
- G. The DES shall notify the Permittee of any under payments or over payments of the annual emission-based fee in accordance with Env-A 704.05.

XXIV. Duty To Provide Information

In accordance with 40 CFR 70.6 (a)(6)(v), upon the DES's written request, the Permittee shall furnish, within a reasonable time, any information necessary for determining whether cause exists for modifying, revoking and reissuing, or terminating the Permit, or to determine compliance with the Permit. Upon request, the Permittee shall furnish to the DES copies of records that the Permittee is required to retain by this Permit. The Permittee may make a claim of confidentiality as to any information submitted pursuant to this condition in accordance with Part Env-A 103 at the time such information is submitted to DES. DES shall evaluate such requests in accordance with the provisions of Part Env-A 103.

XXV. Property Rights

Pursuant to 40 CFR 70.6 (a)(6)(iv), this Permit does not convey any property rights of any sort, or any exclusive privilege.

XXVI. Severability Clause

Pursuant to 40 CFR 70.6 (a)(5), the provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstances is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

XXVII. Emergency Conditions

Pursuant to 40 CFR 70.6 (g), the Permittee shall be shielded from enforcement action brought for noncompliance with technology based³ emission limitations specified in this Permit as a result of an emergency⁴. In order to use emergency as an affirmative defense to an action brought for noncompliance, the

³ Technology based emission limits are those established on the basis of emission reductions achievable with various control measures or process changes (e.g., a new source performance standard) rather than those established to attain health based air quality standards.

⁴ An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of

Permittee shall demonstrate the affirmative defense through properly signed, contemporaneous operating logs, or other relevant evidence that:

- A. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
- B. The permitted facility was at the time being properly operated;
- C. During the period of the emergency, the Permittee took all reasonable steps as expeditiously as possible, to minimize levels of emissions that exceeded the emissions standards, or other requirements in this Permit; and
- D. The Permittee submitted notice of the emergency to the DES within two (2) business days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emission, and corrective actions taken.

XXVIII. Permit Deviation

In accordance with 40 CFR 70.6(a)(3)(iii)(B), the Permittee shall report to the DES all instances of deviations from Permit requirements, by telephone or fax, within 24 hours of discovery of such deviation. This report shall include the deviation itself, including those attributable to upset conditions as defined in the Permit, the probable cause of such deviations, and any corrective actions or preventative measures taken. Said Permit deviation shall also be submitted in writing to the DES in the semi-annual summary report of monitoring and testing requirements due July 31st and January 31st of each calendar year. Deviations are instances where any Permit condition is violated and has not already been reported as an emergency pursuant to Section XXVII of this Permit.

Reporting a Permit deviation is not an affirmative defense for action brought for noncompliance.

the source, including acts of God, which situation would require immediate corrective action to restore normal operation, and that causes the source to exceed a technology based limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operations, operator error or decision to keep operating despite knowledge of any of these things.

Attachment A

Methods of Analysis from Appendix A, Section VII. of Appendix I of the RACT statement from Kalwall Corporation.

VII. Methods of Analysis

The analysis of cleaning materials, polyester resin materials, and control/collection efficiency shall be determined by the appropriate test methods as follows:

- A. Attachment B (Laboratory Static Test for Polyester Resin Materials for the determination of the resin VOC weight loss.)
- B. EPA Method 25A (Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer - for the determination of VOC concentration at the exhaust and inlet of the air pollution control device).
- C. EPA Method 8240 (GC/MS Method for Volatile Organics - for the determination of VOC in liquid waste.)
- D. ASTM D3960-81 (Determining Volatile Organic Content (VOC) of Paints and Related Coatings)
- E. ASTM D1078-86 (Distillation Range of Volatile Organic Liquids - for the determination of VOC boiling range of liquid.)
- F. ASTM D2369-81 (Determination of Volatile Organic Compound Content using Gas Chromatography.)
- G. ASTM D3792-79 (Determination of Water Content using Gas Chromatography)
- H. ASTM D4457-85 (Determination of Exempt Solvents using Gas Chromatography)
- I. Air Resources Board Method 401 (Gravimetric Purge and Trap - for the determination of VOC in liquid and solid)
- J. EPA Guidelines for Developing Capture Efficiency Protocols.

Attachment B

Static Method for Determination of Volatile Emissions from Polyester and Vinyl Ester Resins

1. Purpose

- 1.1 This test is designed for the determination of volatile organic compound emissions of polyester and vinyl ester resins as received from the manufacturer, according to requirements of California's South Coast Air Quality Management District (SCAQMD) proposed Rule 1162 amendment published July 17, 1990.
- 1.2 This test allows fabricators using polyester and vinyl ester resins to monitor volatile organic compound emissions (principally styrene monomer) from resins used in the fabrication process. The results are to be reported as volatile organic compound losses in grams per square meter (gm/m^2).

2. Method

The weight of a one gallon can lid filled with 100 gm of resin is accurately measured over a period of time. The measurement is made on resin catalyzed with peroxide initiators to determine weight losses attributed to monomer and other volatile organic compound emissions.

3. Equipment Requirements

- 3.1 Controlled environment at 25 degrees C and humidity of 50% R.H. If controlled environment is not available, report condition under which measurements are made.
- 3.2 Balance with an accuracy of 0.01 gm.
- 3.3 Draft free enclosure for balance. This can be achieved by placing the balance in a four sided enclosure that extends a minimum of eight inches above the top of the balance.
- 3.4 Gallon can lid with deep form sufficient to contain 100 gm of resin, having a normal diameter of 14.5 cm.
- 3.5 Certified or calibrated thermometer capable of measurements accurate to 1 degree C.
- 3.6 Constant temperature bath controlled at 25 degrees C to adjust resin temperature to 25 degrees C.
- 3.7 Timer - capable to recording time to 0.1 minutes.
- 3.8 Paper clip bent to approximately 90 degree angle.
- 3.9 Syringe or pipette accurate to 0.1 ml for peroxide catalyst addition.

4. Procedure

- 4.1 Weigh out 200 gm of prepromoted resin into a suitable dry and clean container. Wax cups should not be used for this test.
- 4.2 Cover container and place in constant temperature bath and adjust resin temperature to 25 degrees C.

- 4.3 Place balance in draft free enclosure.
- 4.4 Clean gallon lid with solvent, wipe dry and air dried and measure diameter to the nearest 0.1 cm.
- 4.5 Place gallon can lid on an inverted paper or plastic cup mounted on the balance pan. Position bent paper clip in the center of the gallon can lid. Record TARE WEIGHT to nearest 0.01 gm.
- 4.6 Take container with resin from water bath and add appropriate volumetric or weight measure of catalyst using syringe or pipette. Start timer.
- 4.7 Using stirring rod or thermometer, mix in catalyst for one minute.
- 4.8 Pour 100.0 plus/minus 0.5 gm of catalyzed resin into can lid and record weight to nearest 0.01 gm. This is the INITIAL WEIGHT.
- 4.9 Using paper clip, determine when resin has hardened sufficiently to allow resin or lid to be lifted.
- 4.10 Record this as gel time.
- 4.11 Allow resin to harden in can lid and reweigh every 15 minutes until concurrent weighing agrees to within 0.05 gm. Record this as FINAL WEIGHT to the nearest 0.01 gm.
- 4.12 Procedure should be repeated until duplicate samples agree to the nearest 5 gm per m².

5. Calculation

5.1 Volatile Organic Compound Emissions Per Square Meter

$$\text{Area of Sample in Square Meter} = \frac{(\text{diameter of lid in cm}) \times 3.14}{200}$$

Volatile Organic Compound Losses Per Square Meter

$$= \frac{\text{Initial Weight} - \text{Final Weight}}{\text{Area of Sample in Square Meters}}$$

5.2 Percent Volatile Organic Compound Emission

$$= \frac{\text{Initial Weight} - \text{Final Weight}}{\text{Initial Weight} - \text{Tare Weight}} \times 100$$

6. Reporting Requirements

- 6.1 Ambient temperature and humidity.
- 6.2 Resin identification and batch number.
- 6.3 Initiator system and amounts used.
- 6.4 Volatile organic compound losses as grams per square meter.

- 6.5 Percent volatile organic compound emission.
- 6.6 Gel time under conditions of test.

Attachment C

Record keeping listed in Appendix I of the RACT Statement.

VI. Record keeping

Comply with the following requirements:

- A. A person shall maintain, or have available, a current list of resins and cleaning materials in use which provides all of the data necessary to evaluate compliance, including the following information, as applicable:
 - 1. Resin, catalyst, and cleaning materials used;
 - 2. The weight percent of VOC in each of the polyester resin materials, and the grams of VOC per liter for the cleaning materials; and
 - 3. For approved vapor suppressed resins, the weight loss (grams per square meter) during resin polymerization, the monomer percentage, and the gel time for each resin.
- B. A person shall have available records that provide the following information, as applicable:
 - 1. The amount of each of the polyester resin materials and cleaning materials used during each day of operation; and
 - 2. The volume of resin and cleaning materials used for touch-up and repair during each day of operation.
- C. Such records shall be retained for the previous 24 month period and be available at the time of inspection.